

**Abstract**

A processor includes scheduling circuitry and a priority computation element associated with the scheduling circuitry. The scheduling circuitry schedules data blocks for transmission from a plurality of transmission elements, in accordance with a transmission priority established by the priority computation element. The priority computation element, which may be implemented as a script processor, is operative to determine a transmission priority for one or more constituent transmission elements in a specified group of such transmission elements. The group of transmission elements corresponds to a first level of an  $n$ -level hierarchy of transmission elements, with the constituent transmission elements corresponding to at least one lower level of the  $n$ -level hierarchy of transmission elements. The transmission priority is preferably made adjustable under software control so as to facilitate the maintenance of a desired service level for one or more of the transmission elements.